nal-Application No PCT/EP 00/08580

Relevant to claim No.

1

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N9/90 C12P41/00

C. DOCUMENTS CONSIDERED TO BE RELEVANT

C12N15/61

//(C12P41/00,C12R1:19)

21 MAR 2002 According to International Patent Classification (IPC) or to both national classific

B. FIELDS SEARCHED

Category °

Minimum documentation searched (classification system followed by classification symbols) C12N C12P IPC 7

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

Citation of document, with indication, where appropriate, of the relevant passages

PIETZSCH M ET AL.: "Isolation and

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBL, STRAND, MEDLINE, EMBASE

	characterization of a new, n pyridoxal-5'-phosphate depen- racemase" DECHEMA BIOTECHNOLOGY CONFER vol. 4 pt. A, 1990, pages 25 XP000991534	on dent hydantoin ENCES,			
Y	the whole document	2-8			
Y	US 5 827 717 A (BOMMARIUS AN 27 October 1998 (1998-10-27) column 1, line 65 -column 2, column 3, line 25-55 column 4, line 38-53 claims 1-6	1			
	ther documents are listed in the continuation of box C.	Patent family members are listed in annex.			
"A" docum	ent defining the general state of the art which is not dered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention			
filing o		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to			
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means 		involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu- ments, such combination being obvious to a person skilled			
	ent published prior to the international filling date but han the priority date claimed	"in the art. "&" document member of the same patent family			
Date of the	actual completion of the international search	Date of mailing of the international search report			
1	6 March 2001	23/03/2001			
Name and r	mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo ni, Fax: (+31-70) 340-3016	Authorized officer van de Kamp, M			



C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	 Relevant to claim No.
Y	BOMMARIUS A S ET AL.: "Membrane bioreactors for the production of enantiomerically pure alphaaminoacids", CHIRALITY IND. (1992), PP 371-97. EDITOR(S): COLLINS, ANDREW N.; SHELDRAKE, G. N.; CROSBY, J. PUBLISHER: WILEY, CHICHESTER, UK. XP000991099 paragraph '20.1! - paragraph '20.2! paragraph '20.4.1.3!	 8
A	paragraph '20.5! WILMS B ET AL.: "Cloning, nucleotide sequence and expression of a new 1-N-carbamoylase gene from Arthrobacter aurescens DSM 3747 in E. coli" JOURNAL OF BIOTECHNOLOGY, vol. 68, no. 2-3, 19 February 1999 (1999-02-19), pages 101-113, XP004164275 abstract	1-8
Α .	page 102, left-hand column, line 1-18 page 102, left-hand column, line 41 -right-hand column, line 18 page 112, right-hand column, line 16-23 PIETZSCH M ET AL.: "Immobilization of hydantoin cleaving enzymes from Arthrobacter aurescens DSM 3747 - effect of the coupling method on the stability of the L-N-carbamoylase" PROG. BIOTECHNOL., STABILITY AND STABILIZATION OF BIOCATALYSTS, vol. 15, 1998, pages 517-522, XP000991023 abstract	8
1	WOHLFAHRT G ET AL: "Immobilization of hydantoin cleaving enzymes;" DECHEMA BIOTECHNOL. CONF., vol. 5 pt. A, 1992, pages 45-48, XP000991533 page 45, line 1-10 page 48, line 1-17	8
, X	WIESE A ET AL.: "Hydantoin racemase from Arthrobacter aurescens DSM 3747: heterologous expression, purification and characterization" JOURNAL OF BIOTECHNOLOGY, vol. 80, no. 3, 14 July 2000 (2000-07-14), pages 217-230, XP004214557 the whole document	1-8

3

PCT/EP 00/08580

(Continua).	tion) DOCUMENTS CONSIDERED TO BE RELEVANT	
ategory °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
,х	OLIVER M ET AL.: "Inverting enantioselectivity by directed evolution of hydantoinase for improved production of L-methionine" NATURE BIOTECHNOLOGY, vol. 18, no. 3, March 2000 (2000-03), pages 317-320, XP002154849 abstract page 320, left-hand column, line 9-13	1-7
	WO 00 58449 A (DEGUSSA ;CALIFORNIA INST OF TECHN (US)) 5 October 2000 (2000-10-05) page 8, line 25 -page 9, line 17 example 2 claims 20,26,31	1-8
141	7	
		•
	•	
	·	

05-10-2000

Information on patent family members						Inte ional Application No EP 00/08580		
Patent document cited in search report	٠.	Publication date	Patent family m mber(s)			Publication date		
US 5827717	A	27-10-1998	DE AT DE EP ES JP SG US	4316928 196776 59409542 0625571 2150452 6343462 46729 5516660	T D A T	24-11-1994 15-10-2000 09-11-2000 23-11-1994 01-12-2000 20-12-1994 20-02-1998 14-05-1996		

AU

4178800 A

16-10-2000

WO 0058449

Α